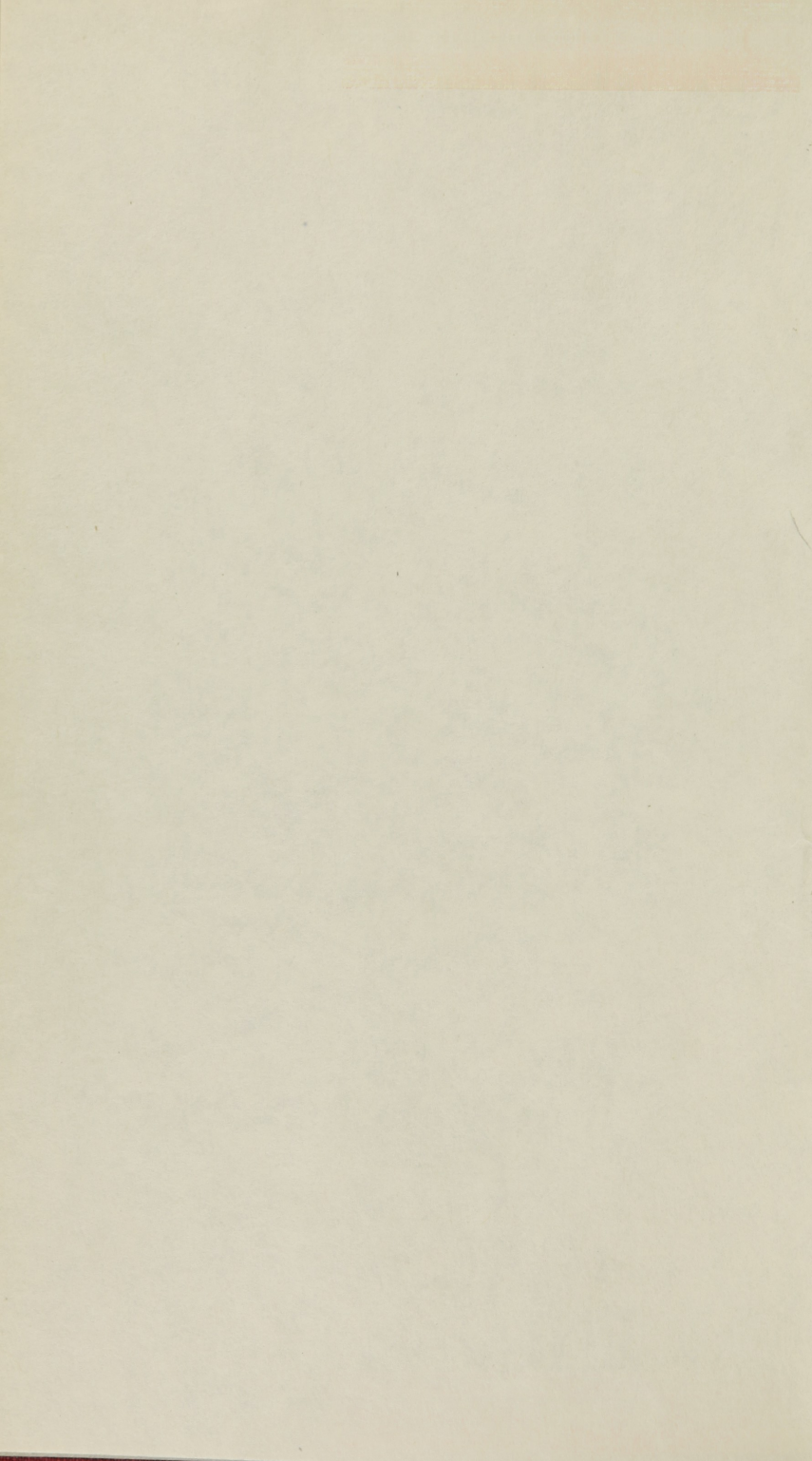


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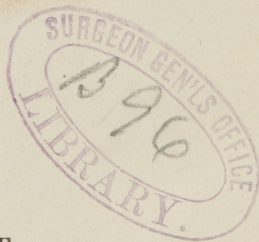
THE
IMPORTANCE OF THE SCIENCES
OF
ANATOMY AND PHYSIOLOGY
AS
A BRANCH OF GENERAL EDUCATION;
BEING AN INTRODUCTION
TO
A COURSE OF LECTURES
TO
THE UPPER CLASSES IN BROWN UNIVERSITY.

—
BY USHER PARSONS, M. D. ✓
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CAMBRIDGE.

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GENTLEMEN,

In commencing a course of public lectures, it has been customary to offer some remarks on the nature and importance of the science to be lectured upon ; and in treating of anatomy and physiology, such remarks have usually been confined to the consideration of the value of these sciences to the practitioner of physick and surgery. I shall deviate from this course, on the present occasion, by indicating some of the advantages of anatomy and physiology, as a branch of general education. Previous to which we will briefly consider the nature and progress of these sciences, and the difficulties that usually attend the study of them.

INTRODUCTORY LECTURE.

ANATOMY teaches the structure of organized substances, whether animal or vegetable. Physiology comprises a knowledge of their functions and modes of action. Commonly, however, the two terms are restricted in their application to animal bodies, and in the present course of lectures our attention will be confined to the anatomy and physiology of man; though I shall, occasionally, illustrate our subject, by comparisons drawn between the structure of the human and brute species.

You will be convinced of the value of such comparisons, when informed of the amount of knowledge already derived from this source. It has been justly inferred from the writings of the Greeks and Romans, that they gathered nearly all their ideas of the structure of the human frame from comparative anatomy, since an accurate de-

scription of such animals, as bear the nearest resemblance to man, would be equal to their best systems of human anatomy. A principal cause of their resorting to the bodies of brutes for information, was the strong prejudice that existed against human dissection ; for accustomed as they were to look with satisfaction and delight on the cruel spectacles exhibited in their amphitheatres, on dying gladiators, and men rent in pieces by ferocious animals ; yet, the body once dead, they regarded with horror any violation of its senseless fabric with the dissecting knife. Nor were the Egyptians void of this superstitious veneration for the dead, as their practice of embalming proves ; and though we might conclude that the process itself of removing the large viscera from their cavities would afford an opportunity for examining them thoroughly, yet the fact was far otherwise. The person, who performed this duty, was from the lowest ranks in society, and was regarded with more detestation than a common executioner. It is even stated in history that when the work was done, although in accordance with the customs of the nation, and in compliance with the wishes of relatives, “ yet that the operator was obliged to flee immediately from the body, to es-

cape being murdered upon the spot." We look in vain, therefore, to the records of antiquity, for correct notions of anatomy, and especially of the soft and more perishable parts. With the solid framework of our bodies, they were much better acquainted. The slain in battle, whose bones whitened the ground after the more perishable coverings were dissolved and washed away, furnished ample means of instruction, and enabled the ancients to describe the human skeleton with very great accuracy ; while the blood-vessels, nerves, and lacteals remained undescribed and unknown, with any degree of precision, till within the last two centuries. What was known of the large viscera, as before observed, was gathered from the examination of brutes, whose organs and textures were named by the Greeks, and the names they gave have continued in use to this time. But the anatomy of brutes is not neglected at the present day, although no longer relied on for a knowledge of the human structure. We now resort to it for light to direct us in physiological researches. We can, after destroying the sensibility of an animal, expose its thoracic and abdominal viscera, while their irritability remains unextinguished, and thus gain a correct notion of the beatings of the heart,

the vermicular and peristaltic motions of the intestines, and the course of the chyle or nutriment from these towards the heart, which could not be done in the human body. We are also enabled to examine in the brute that most interesting organ, the eye, at an earlier period after death, than could be done with the human eye, a circumstance of vast importance, in a part so delicate in structure, and so rapid in its tendency to change and dissolution.

Furthermore, by examining any one organ in different species of animals, we arrive at a better knowledge of the constitution and powers of the same organ in ourselves. By comparing, for instance, a series of stomachs, as those of the carnivorous with the herbivorous tribes, we perceive the former to be more simple in their form, for dissolving and digesting animal food, and the latter more complicated and better suited to the much slower process of digesting and animalizing vegetable substances. The feathered tribes exhibit, in this organ, a muscular strength equal to the task of breaking down and comminuting the hardest skins and shells. By comparing the structure of each kind of stomach with its appropriate food, we can more readily determine what substances are

most likely to retard, or accelerate, the digestive process in the human stomach, and what food is most suitable for our sustenance.

The prejudice against human dissection, to which I have alluded, as having retarded the progress of anatomy and physiology in the enlightened nations of antiquity, appeared again at the revival of letters, and continues, to this day, to present powerful obstacles to the general diffusion of these sciences, as branches of general education. There was no medical school in the island of Great Britain, or in any part of the north of Europe, where public demonstrations in anatomy were given, prior to the time of the immortal Harvey; and even this gentleman travelled from England to Aquapendente in Italy, to study his profession, and while there, laid the foundation of his brilliant discovery, the circulation of the blood. But after a time, the necessity of dissecting became more apparent, especially to military surgeons, and gradually wrought a spirit of toleration in its favour, till it is now no longer regarded with horror by the well educated in Europe, provided the tranquillity of relatives is not disturbed by exhumation. Our own country, being settled while the prejudices I speak of existed in great force,

was slow in discarding them. The first regular dissection and demonstration of the human body in this country, my predecessor informs me, took place in Newport, under the hands of the late venerable Dr. Hunter, a gentleman of profound erudition, both classical and professional. With such prejudices against the ordinary mode of prosecuting anatomical investigations, prejudices which we are bound to respect, while, at the same time, the cause of science and humanity pleads loudly for dissections ; I humbly conceive it to be the duty of legislatures, while they provide for the punishment of those, who violate the sanctuary of the dead, to provide also for the necessities of anatomists, by decreeing to them the bodies of all persons executed, and of all criminals dying in penitentiaries. This would be no more than a just forfeiture from such persons for the benefit of that community, whom their crimes, while living, had so often injured ; then exhumation, at which every feeling of the human heart revolts, which is alike odious to the enlightened and the ignorant—exhumation, with all the horrors, which the imagination associates with its practice, would cease forever, the public mind would be tranquillized, and the principal hindrance to the successful study of anatomy would be removed.

The prosecution of this science meets with another obstacle in the nature of the study. It requires no Hebrew lawgiver to impress our minds with an aversion to touching animal substances, and especially the human body, while in a state of putrescence. But with you, gentlemen, this difficulty can have no weight ; the study of plates, models, and preparations, together with demonstrations in the lecture room, is sufficient for your purpose.

The diffusion of this science is limited also, from an opinion, which is but too prevalent, that, when the obstacles abovementioned are removed, and the science is in our possession, it is not worth having ; or at least, not worth the trouble taken to acquire it. This, if well founded, must be pronounced an obstacle hard to overcome. To obviate it, however, and show wherein anatomy and physiology may be highly beneficial, will be the object of the remaining part of this lecture.

In the first place, you will find it very convenient, when giving a history of your disease to a physician, to be able to call “things by their right names.” Many times, it is difficult to resist a disposition to smile at the descriptions given by patients of what they consider the seat and nature

of their complaints. Palpable ignorance on such subjects is calculated to diminish a person's respectability, especially among strangers ; and still more so, if he be understood to have received a college education. Besides this, all persons have more or less interest in knowing something of the structure of their bodies, to enable them to guard against those injuries, to which they are constantly liable, from accidents without, and disorders within. When we know precisely the part affected, when we can determine the amount and sources of danger, we are shielded against unnecessary fear on the one hand, while, on the other, we are duly awakened and prepared to meet any danger that may exist.

If our joints are dislocated, we know the nature and extent of the evil, and the best manner of applying a remedy, and hence are less likely to fall into the hands of natural bone-setters.—Natural-bone-setters!!—a term, that to one, who has examined the structure of joints, seems as great a burlesque on common sense, as it is on the healing art—a term, implying that some persons come into the world, possessed of a particular knowledge of the joints, more perfect forsooth than can possibly be acquired by repeated and close examination of

them, in a dissecting-room. I am not lawyer enough to know the order of transmitting this gift; whether the rights of primogeniture are observed, or whether, when the line becomes extinct, it passes over to collateral branches of the family. Nor am I sufficiently versed in experimental physiology, to know whether the faculty may not be transferred from one person to another by inoculation, or by transfusing the blood from the gifted, to the veins of another person, or be ingrafted on him by some nice operation of

“The Taliacotian science, which

“Makes supplemental nose from breech.”*

Sir Astley Cooper, however, well observes, that bone-dislocators is quite as appropriate a term, as bone-setters. That these magical pretenders sometimes replace luxated bones is admitted, but that they enjoy the reputation of replacing many bones that never were dislocated, is equally true. I was called to an aged lady, whose shoulder had undergone sundry wrenchings from the hands of one of these magicians, who gave her

* *Taliacotius* was an Italian surgeon, who found out a way to repair, or replace, lost and decayed noses, by slices of integument taken from such parts of the body, as could best afford to spare them.

to understand, that he had replaced two or three of the bones, and was in hopes of soon adjusting the remainder!

Why are there no pretenders to extraordinary gifts in other mechanical arts? for such is the setting of dislocated bones. Why are there no natural watch-makers, or wheelwrights,—pretenders, not to superior adroitness in the adjustment of the several parts of carriages, or timepieces, acquired by long practice in such kind of work, for this will not answer to the claims set up by natural bone-setters—why, I ask, are there no pretenders to a mysterious, innate, hereditary skill, in the adjustment of the spokes of a carriage-wheel, or the mechanism of a timepiece, superior to what can be gained by serving a regular apprenticeship to the business of making and repairing those articles? The answer is obvious. Every person knows, or can with facility learn, what is required to be done in the latter case, by examining the article, and he is able to judge of the best manner of doing it. And it is hardly necessary to add, that a corresponding exemption from the deceptions of natural bone-setters, would accompany the more general extension of a knowledge of the frame-work of our bodies.

The student of mental philosophy must feel an interest in the sciences of anatomy and physiology. Although the visionary theory of Descartes, which maintained that the mind is enthroned in the pineal gland, has long since been discarded, and the craniological doctrine of Gall and Spurzheim, which places each faculty and propensity of the mind in a distinct portion of the brain, will, probably, in time, share the same fate; although neither the crucible of the alchemist, nor the knife of the dissector, has yet detected the vital agent, or the ligatures that tie body and mind together, still we are not without facts relating to their connexion and reciprocal influence, which are highly interesting, if not important to be known.

The physiological system of Bichat, which divides the functions of our bodies into those pertaining to organic life, and those which belong to animal life, extends also to a corresponding division of the mind into what belongs to the passions, and what pertains to the understanding. A summary exposition of his doctrines on this subject, will gain your assent to this position, while you cannot avoid being pleased with his discriminating and comprehensive views; "Physiologically speaking, we have two lives, both equal-

ly necessary to the relations we maintain to every thing that surrounds us, but not equally necessary to our simple existence." One of these lives is called organic, and comprises those organs concerned in digestion, absorption, nutrition, growth, secretion, &c. and may be termed, indeed, the life of supply and waste, which is necessary not only to the existence of itself, but also to the existence of animal life; the other is called animal life, and consists of those organs and functions, which connect us with exterior beings; as the organs of sense, of locomotion, and the voice. These two sets of organs differ so strikingly in their situation, structure, and mode of action, as to remove all difficulty in classing them, and indicating their respective characters.

In the first place, those organs which are concerned in animal life, are regular, symmetrical, and in pairs. We have two eyes, two ears, two upper and two lower extremities; and where an organ of sense is single, it may be divided into two symmetrical halves, as the tongue and nose, which are joined together at what is termed the median line, a line marked in several places, as on the tongue, on the upper lip, &c. and which serves as a dividing line between the organs that are more distinctly

in pairs. The organs thus placed are not only double, symmetrical, and distinct, but those of one side can exist independently of the other, as when one half of the body is paralyzed.

On the other hand organic life is single : “ The stomach is single, and placed in an oblique direction ; the liver is single, and placed mostly on one side, and all the other organs of this life are placed without any reference to the median line.”

Again, animal life sleeps nearly half of every twenty-four hours, while the functions of the organic life are constantly going on ; they admit of no interruption, no repose. If respiration or the circulation stop but for a moment, life is destroyed.

“ The two lives differ also in the mode and epoch of their origin. The organic is in activity from the time of conception. The animal is first brought into exercise at birth, when external objects offer to the new individual means of connexion and relation. In the foetal state, the œconomy is solely occupied in the formation and nutrition of the organs ; this is the preparative stage of existence. The organs, which are to perform the functions of the animal life, are created and perfected, but they are not exercised ; they are not accessible to the operation of the agents, whose excitement is

necessary to bring them into action, and, of course, they remain in a state of profound repose, until the stimulus, first of the air, and afterwards of food, light, and sounds, is applied to the appropriate organs. At birth, then, a great change takes place in the physiological state of man. His animal life is first brought into existence, and his organic life becomes more fully developed, and more complicated, in order to accommodate itself to the increased demands, which this change necessarily brings upon it. But from this moment, there is no farther alteration or improvement in the functions of organic life. They are as perfect in the infant, as in the adult; they are not susceptible of education. But in those of animal life, every thing depends upon the education they receive; at first feeble, imperfect, and indistinct, they gradually become developed, and the direction given to this developement, and the character which they ultimately possess, depend in a great measure upon the influence exercised upon them by extrinsic circumstances."

Passing over some other characteristics of the animal and of the organic life, we proceed to the consideration of what is more to the point under discussion,—the seat of the two lives. The nerves

subservient to animal life, which receive external impressions, transmit the same to the brain as to a common focus or centre ;—and the nerves which supply those muscles that are obedient to the will, radiate from the brain as from a common centre. Physiologists are therefore agreed in considering the brain, as the common centre of all those functions that pertain to animal life.

The organic life is connected with a set of nerves distinct from the foregoing ;—nerves, which are very remotely and slightly connected with the brain, and which are distributed to those organs in the thorax and abdomen that are concerned in respiration, circulation, digestion, and secretion ; whose actions, unlike the organs of animal life, are not under the control of the will. Physiologists are not agreed as to the precise situation of the centre or focus of these nerves. Some have placed it in the ganglions, or knots of nerves, of which there are several, and have called these knots, small brains ; others refer it to a plexus, or network of nerves, near the cardiac orifice of the stomach ; nor is it indeed certain that such a well marked focus or centre does exist, as in the other life ; we only know that the organic functions are under the influence of the sympathetic nerves, and that these

nerves are found more abundant, in the form of plexuses and ganglions, in the region of the epigastrium, or pit of the stomach ; from which circumstance, as also from that of our experiencing a peculiar sensation in this region, whenever the organic functions are disturbed by mental excitement, Bichat gives this part the name of the epigastric centre, or focus, of organic life.

We may here pause for a moment to admire the wisdom of the Creator, who, in giving us a control over those organs that admit of improvement and education, and which for their full developement and perfection require to be exercised, has in infinite goodness, placed those of organic life—a momentary interruption of whose action would destroy us—beyond our control or interference. We can exercise the muscles of locomotion, and the voice, as well as the understanding, in any manner we please, while those parts pertaining to organic life are without our control. We can neither make the heart pulsate faster nor slower, the circulating fluids move with increased or diminished rapidity, nor digestion hasten its process, by any effort of the will ; and although we might voluntarily resolve entirely to suspend respiration and taking nourishment, yet the demand of the lungs

for vital air, and of the stomach for its supply of food, set up in the form of distress, are too imperious and urgent to be resisted, and would, in most instances, soon induce us to change our resolution. Few, it is believed, however intent on suicide, have been able to accomplish it by voluntarily withholding food from the stomach, and none by stopping the motions of respiration.

This theory of Bichat, which divides the functions of our bodies into two classes, extends also, as before observed, to the dividing of the mind, into what pertains to the passions and to the understanding. Every thing pertaining to the understanding, as perception, reflection, memory, attention, judgment, imagination, consciousness, and volition, is the attribute of animal life ; while the passions, emotions, and affections, as love, gratitude, joy, sadness, hatred, &c. belong to organic life, have their seat in its organs or in the epigastric centre, and maintain a reciprocal influence with them. If we wish to express, by gesture, any of the phenomena of the intellect, relating, for instance, to memory, perception, or judgment, we carry the hand to the head, to the cerebral centre ; but if we would express love, joy, gratitude, or sadness, we involuntarily place it upon the epi-

gastric centre, or near the pit of the stomach; and in various emotions we experience peculiar sensations in this part, as of sinking, of trembling, of fulness, &c. I may add that this relation of the understanding to animal life, and of the passions to organic life, is already admitted by most persons, however ignorant they may be of physiology. We say a strong head, a well organized head, a sound head, to express the perfection of the understanding; a blockhead, a weak head, an unsound head, to denote its imperfection; a good heart, a feeling heart, a tender heart, to express moral perfection; and an unfeeling heart, a hard heart, or a bad heart, to denote moral imperfection; and terms corresponding to these, and intended to convey the same meaning, are to be found in all languages.

The relation which the passions bear to animal life is intermediate and not direct. Do the eyes flash, the brows become knit, the nostrils dilate, the teeth gnash, and fingers clench in anger; we say that these phenomena proceed from a primary affection of the heart, the force of whose circulation is increased by this passion as appears from the general turgidness of the blood-vessels, and the flushing of the cheek. The excitement of the

animal organs abovementioned, follows, partly from sympathy, and partly from a kind of instinctive preparation for repelling, or avenging an injury. A counterpart to the above picture, we know is presented, when the primary affections or passions, which influence the action of the heart, are of an opposite character, as those of fear and horror, which debilitate the heart and general circulation, and cause paleness, a kind of fallen state of features, debility, a tremor of the limbs, and faltering of the voice.

—————“Adam, soon as he heard
 The fatal trespass done by Eve, amaz’d,
 Astonied stood and blank, while horror chill
 Ran thro’ his veins, and all his joints relaxed ;
 From his slack hand, the garland wreathed for Eve
 Down dropt, and all the faded roses shed ;
 Speechless he stood and pale ! ”—————

Although the foregoing theory of life has led to no measures for the actual and permanent improvement of the mind, nor yet opened the way to discoveries very important to the mental philosopher, we are not the less sure, that it is calculated to suggest valuable hints for the preservation of its sound and healthy exercise. Whatever stimulates the brain, exhilarates the spirits for a time, and leaves a corresponding torpor to succeed, when

this artificial excitement has subsided. Such is particularly the effect on the brain of the diffusible stimuli of ardent spirit and opium, which are too often resorted to by poets, and such as wish to enliven the imagination for some extraordinary exertion. Even febrile excitement of the brain I have known to be accompanied with a rapidity in the current of ideas, which a moderate share of superstition would have attributed to some supernatural agency. In all these cases of increased activity of mind, whether purely from disease, or from artificial stimuli, there is a certain degree of mental power borrowed, which must be afterwards compensated by a state of torpor and stupidity. We might as well try to extract more alcohol from a given quantity of materials by the application of excessive heat, that would endanger the retort, as to force the mind to more effectual labour by artificial stimuli; and the danger of destroying the apparatus by such a forced state of action, is alike in both cases.

A regular, free, and persevering exercise of the intellectual faculties is however necessary to their complete developement; as much so, as the exercise of the limbs, for giving them muscularity and fulness of vigour. It is from such exer-

cise, that man derives the arts and sciences, is able to circumvent and subdue huge and ferocious animals,—to frame laws, and transmit them from one generation to another, and, above all, to subdue the passions to the dominion of reason.

“T is the great art of life to manage well
The restless mind. Forever on pursuit
Of knowledge bent, it starves the grosser powers :
Quite unemployed, against its own repose
It turns its fatal edge, and sharper pangs,
Than what the body knows, embitter life.”

On the other hand, our moral happiness is intimately connected with a healthy and vigorous state of the organs of organic life, and with a regular and appropriate exercise of the passions pertaining to this life. Every person has experienced the effect of alimentary obstructions on his temper and disposition, and the tranquillizing effect of a cathartic. The ancients believed that gloom and melancholy could be carried off by purgatives, and attributed the existence of these affections to *atra bilis*, when they should have attributed this colour of the bile to a torpid state of the organs that secreted and conducted it from the system, allowing it to become stagnant, and consequently dark coloured. With respect to the passions them-

selves, we know that they gain strength by frequent excitations, and according as they partake of a good or bad character, render the subject of them happy or miserable, and, if indulged in to excess, finally acquire an ascendancy over the animal life. They become the governing principle of the greater number of its motions, "giving birth to actions to which the will is almost a stranger, and which too often bring after them bitter regrets, which are felt, the moment animal life resumes her empire."

"Love without hope, and Hate without revenge,
And Fear, and Jealousy, fatigue the soul,
Engross the subtle ministers of life,
And spoil the lab'ring functions of their share.
Hence the lean gloom that Melancholy wears ;
The lover's paleness ; and the sullen hue
Of Envy, Jealousy ; the meagre state
Of sore Revenge ; the canker'd body hence
Betrays each fretful motion of the mind."

"The man whose mind is best constituted is he who preserves the two lives in a state of equilibrium, in whom the cerebral and epigastric centres exercise an equal action, in whom the passions animate, warm, and exalt the intellect, without seizing the reins."

The brain being the instrument by which the active powers of the mind operate, or are in some

way connected, we infer that the free exercise of these powers tends not only to strengthen them, but also (judging from the effect of exercise on other parts) to enlarge the organ itself; and indeed we find that the size of it is in a great degree proportioned to the developement of its powers, or to the perfection of the understanding. The discovery of this fact led physiologists to try several plans for measuring the size of the brain of man, and also of brutes. The method adopted by Camper is the most simple, and serves very well for measuring the relative size of the brain of man and such animals as approach nearest to him in appearance. It consists in drawing a line along the floor of the nostrils and intersecting it by another that touches the forehead and the anterior part of the upper jaw bone, which makes the sockets of the front teeth. The angle included between these lines is most open, or approaches most nearly to a right angle in the human subject. It becomes constantly more acute, as we descend in the scale from man.

The European adult is	-	-	-	-	85°
The adult negro	-	-	-	-	70
Orang Outang	-	-	-	-	67
Monkies	-	-	-	-	65

Pug dog - - - - -	35
Hare - - - - -	30

The invaluable remains of Grecian art show that the ancients were well acquainted with these circumstances. They were aware that an elevated facial line forms one of the grand characteristics of beauty ; and indicates a noble and generous nature. Hence they have extended the facial angle to 90 degrees, in the representation of men, on whom they wished to bestow an august character. And in the representations of their gods and heroes, they have even carried it beyond a right angle, and made it 100 degrees.

It would gratify curiosity could we indicate a measure of those nerves which constitute the organic centre ; resting, I mean, on the supposition that, like the centre of animal life, their size is in proportion to the developement of their power ; that is, to the degree of excitability and to the intensity of the passions seated in them. We should then be able to determine by actual admeasure-ment the moral and intellectual character of an individual far better than can be done by the system of Gall or Lavater.

Although the foregoing theory of Bichat respecting the seat of the understanding and passions, and

particularly respecting the latter, is not fully acceded to by many eminent physiologists, nor full credit given by all to the position that the brain corresponds in size to the strength and improvement of the intellect; still both doctrines have advocates enough to render them a subject of frequent and interesting discussion among scientific men; and how will you be able to take a part in these discussions, or even to understand them, without a knowledge of those parts, whose structure and qualities will be often alluded to, unless you acquaint yourselves with anatomy and physiology.

I might here show you the relation of our subject to the natural history of man, to the varieties, that our species exhibits in colour and feature; and, considering this subject in connexion with that of slavery, you must perceive that to a statesman and philanthropist, a knowledge of what characterizes each variety must be valuable; and more especially so to such of you, as aspire to a seat in the legislative halls of the nation. Even now the voice of a slavery-advocating senator* is echoing through the nation, and should warn you to store your minds with such truths concerning the struc-

* John Randolph in his speech on the Panama Mission.

ture and nature of our species, as shall prepare you to come forth as champions of liberty, and to vindicate the cause of suffering Africans, on whose peculiarity of features and complexion some of their masters would fain establish a right to drag them from home and kindred, and doom them to perpetual slavery in far distant regions.

I might here speak of the relation of anatomical structure to human expression, and show how important it is to the statuary and historical painter, and to the connoisseur in these arts, to study the form and situation of the muscles, which by their varied action, produce all the necessary and agreeable variety of expression, observable in the human countenance and gesture. I might advert to the information to be obtained on the subject of optics, by studying the formation of the eye, and to the illustration it gives of the laws of vision. I might expatiate on the salutary tendency of anatomy to oppose the principles of infidelity, by the proofs it every where affords of the existence of a final cause displayed in the manifestation of design, in the adaptation of the same organs to the varied wants and circumstances of animals ;—a subject so admirably treated in the excellent work of Dr. Paley, which you are about to commence reading. I might

dwell too on the delightful effects of this science on the mind, in expanding our conceptions and exalting our admiration of the works of the Creator, proclaiming as it does at every step, that “in wisdom he hath formed, and in goodness sustains us ;” but believing enough has already been advanced to convince you that the general scholar has an interest in the sciences of anatomy and physiology, I shall leave these topics for further consideration during the course of lectures upon which we have now entered.



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